

WHAT IS CLAIMED IS:

1. A composite fiber-resin structural member, comprising:
fiber-resin tubing including a central axis; and
an elongated truss having a longitudinal axis and including at least
two wires and a plurality of diametral fibers;
wherein the truss fits within the fiber-resin tubing such that the
central axis of the fiber-resin tubing and the longitudinal axis of the truss are
coaxial.
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2. The structural member of claim 1, wherein the diametral fibers
comprise carbon fiber.
3. The structural member of claim 1, wherein the diametral fibers
form circular bundles around the wires.
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4. The structural member of claim 1, wherein the diametral fibers
are of substantially equal length from the longitudinal axis of the truss.
5. The structural member of claim 1, wherein a diameter of the
truss is substantially the same as an inside diameter of the fiber-resin tubing.
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6. The structural member of claim 1, wherein at least one of the
wires of the truss is mechanically textured.
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7. The structural member of claim 6, wherein the mechanically
textured wire includes a repeating distortion along at least a portion of its
length.
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8. A composite fiber-resin structural member, comprising:
fiber-resin tubing including a central axis; and

an elongated truss having a longitudinal axis and including a wire and a plurality of diametral carbon fibers forming bundles around the wires;

wherein the truss fits within the fiber-resin tubing such that the central axis of the fiber-resin tubing and the longitudinal axis of the truss are coaxial.

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9. The structural member of claim 8, wherein the diametral fibers are of substantially equal length from the longitudinal axis of the truss.

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10. The structural member of claim 9, wherein a diameter of the truss is substantially the same as an inside diameter of the fiber-resin tubing.

11. The structural member of claim 8, wherein the wire is mechanically textured.

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12. The structural member of claim 11, wherein the mechanically textured wire includes a repeating distortion along at least a portion of its length.

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13. A composite fiber-resin structural member, comprising:
fiber-resin tubing including a central axis; and
an elongated truss having a longitudinal axis and including at least two wires and a plurality of diametral carbon fibers forming circular bundles around the wires;

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wherein the truss fits within the fiber-resin tubing such that the central axis of the fiber-resin tubing and the longitudinal axis of the truss are coaxial, the diametral fibers are connected to the fiber-resin tubing with resin, and wherein the diametral fibers are of substantially equal length from the longitudinal axis of the truss.

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14. The structural member of claim 13, wherein at least one of the wires of the truss is mechanically textured.

5 15. The structural member of claim 14, wherein the mechanically textured wire includes a consistent and repeating distortion along at least a portion of its length.